

A survey of career progression of graduates of the Postgraduate Diploma/MSc in Information Analysis

Rita Marcella and Graeme Baxter

Abstract: *This paper describes the results of a survey of graduates of the Postgraduate Diploma/MSc in Information Analysis at the School of Information and Media, the Robert Gordon University. The survey was carried out by means of a postal questionnaire to all prior students and generated a 45% response rate. The results show that graduates of the course are finding posts in what has been described as the emerging market for information professionals. The primary sectors of activity identified are posts in IT, in research, in information service provision and in financial and policy analysis. Respondents found that the skills gained from the course were relevant to their employment situation and criticisms of course content tended to focus upon IT provision. The paper concludes that further research into the nature of duties carried out by those employed in this sector would have value, as would investigation of the avenues which graduates follow in successfully finding first and subsequent posts. Further surveys are planned in order to track career progression.*

Keywords: *career surveys; career development; employment; LIS; information professionals; information analysis; emerging market*

Rita Marcella *is a Reader and Senior Lecturer at the School of Information and Media, the Robert Gordon University in Aberdeen. She has been Course Leader for the Postgraduate Diploma/MSc in Information Analysis since its inception in 1992. Research projects include the areas of gender and communications, European information, citizenship information and the management of the help desk.*

Graeme Baxter *is a Research Assistant at the School of Information and Media, the Robert Gordon University in Aberdeen. He has been involved in a funded project considering the Public Information Relay and is at present working on the Citizenship Information project funded by the British Library Research and Innovation Centre with Rita Marcella.*

Introduction and background: the Information Analysis course and its rationale

In 1983 Cronin drew attention to the evolving sense that the world was moving into what has variously been described as an 'Information Age' and more commonly in recent years, an 'Information Society', heralding this broad societal movement as one which would provide an emerging market for information professionals. Cronin argued that:

'Library educators have a choice: they can either concentrate on educating information professionals for the visible (institutionally defined) job market, or they can expand their educational focus to include the mushrooming information periphery'

(Cronin, 1983, p. 13).

Similarly, Moore's (1986) study of the market for librarians and information workers concluded that despite the fact that 'it is unrealistic to expect much expansion of the established market during the coming years ... increasing attention has been focused on the potential scope for employment offered by the emerging market for librarians and information workers'. In relation to the emerging markets, Moore highlighted that:

'The crucial issue will be the extent to which trained librarians and information workers are able to capitalise on these job opportunities. At the moment it would appear that their prospects for doing so are not good. The situation could change, however, as the library and information studies schools change and make their qualifications more relevant to the needs of the emerging markets'.

(Moore, 1986, p.11)

Moore's study was based upon the analysis of job advertisements appearing in 1984-85. He found 'approximately 3,000-3,500 jobs in the emerging market which, potentially, were open to trained librarians and information workers' (Moore, 1986, p.33). Other studies (see, for example, Angell, 1987) demonstrated a growing market fed by the impact of new technology. A number of books (Horton, 1994, and Sellen, 1980) also highlighted a growing awareness of the range of job opportunities available to the LIS graduate. In America Williams (1994, p.43) argued that 'in today's information dependent world, ... MLS students face an endless

array of career opportunities’ and identified a group she termed ‘alternative librarians [who are] working in many different ways, testing and expanding the boundaries of the profession’.

In its original conception in 1992 the Information Analysis course drew upon Moore and Cronin’s vision of the future employment marketplace. The course was designed to provide graduates with the skills that would enable them to work within organisations, in both the commercial and public sectors, seeking to exploit and explore the role of information without the benefit of a traditional collection based library service. The course design team brought together a group of academics from a variety of disciplinary backgrounds: in information studies; in business management; in public policy; in IT; and in technical communications. The team sought to build into the course not only the core information related elements, but also an understanding of the ways in which information fed into the operational and decision making processes in organisations in the public and commercial sector. It was to fill professional roles in Moore’s ‘emerging markets’, Cronin’s ‘information periphery’ or to produce what Wisdom-Hill and Brittain refer to as the ‘hybrid information worker’ in the health and corporate sectors (Wisdom-Hill and Brittain, 1994), purposely outwith the traditional, institutional job market, that the course was specifically designed.

Brittain, sounded a warning, however:

‘During the past few years thousands of information jobs have been created in the UK National Health Service (NHS) to support the development and operation of information systems designed to make the restructured NHS more easily manageable ... The new information jobs are concerned with providing information support services to end-users.’

Yet

‘Very few information scientists (or indeed appropriately qualified and experienced librarians) are found in either information or IT/computing departments in the NHS.’

(Brittain, 1992, pp. 261 - 2)

Brittain argued that ‘the new information professionals do not constitute a single, homogeneous occupational group. They are not IT or computer specialists, library scientists, information scientists, statisticians or demographers: but the work they are doing in the NHS demands a range of skills and knowledge found in the traditional occupational groups’. He identified the skills mix as consisting of those of: the information analyst; the information scientist; the statistician; the IT/computer scientist; and the information manager.

In the 1990s, however, doubts have been raised as to the real potential of these emerging markets. By 1997, indeed, Moore himself was suggesting that there were threats as well as opportunities in the raised profile of information:

‘Information is becoming embedded in our culture, shaping the way in which we work, play and enrich ourselves. In such circumstances, what need is there for information professionals when everyone becomes more professional in their use of information?’

(Moore, 1997, p.24).

In 1997 TFPL carried out a similar exercise to Moore’s in monitoring information-intensive roles which were not library or information manager roles. These included: ‘strategic planning, business development, communications, marketing, IT and research’ (Abell, 1997, p. 539). Abell also argues that there are dangers implicit in the ever higher profile of information in that information related jobs are attracting a new range of ‘high flyers’:

‘Potential top managers who understand that the effective management and exploitation of a crucial resource can be an essential rung on a career path are becoming attracted to ‘information management’, ‘knowledge management’ and ‘intellectual asset management’. The traditional library and information professional can, therefore, expect competition in areas where information is seen to matter.’

(Abell, 1997, p. 38)

It is, therefore, argued that a survey of the careers of the graduates of a course designed to place suitably qualified professionals in the hypothesised emerging markets could be revealing in terms not only of indicating overall success of that group of graduates (the primary objective of the exercise) but also in telling us more about the nature of the posts that were being filled, the nature of the duties being undertaken and the levels of remuneration being enjoyed by those in that employment sector.

Previous career surveys

Moore (1986) provided a thorough, critical and extensive account of the research that had been carried out into the library and information workforce, in the introduction to his work on the emerging market for information professionals. In 1990 Loughridge (Loughridge, 1990), who has himself been involved in a number of career surveys, presented a comprehensive and highly critical review of the work that had been carried out in the LIS sector in the United Kingdom from the early 1970s to date both reporting on career surveys and forecasts of LIS manpower needs. In a subsequent paper by Loughridge, Oates and Speight (1996) that review is updated. While the present survey seeks data specifically in order to evaluate the effectiveness of the Information Analysis course, many of the surveys undertaken in the past have had such a broader purpose, that is to assist in the process of manpower planning or forecasting the future development of the market for information and library professionals.

It is generally accepted that the most significant body of work in career survey has emanated from the Department of Information Studies at Sheffield where a series of surveys has been carried out at regular intervals over a period of more than twenty five years, of graduates from the School's postgraduate programmes.

The present paper draws upon the results of four surveys in some detail in the discussion that follows: White (1986); Armstrong (1986); Loughridge and Sutton (1988); and Loughridge, Oates and Speight (1996). In particular it is felt that there are useful parallels in the Sheffield and present work: both deal with postgraduate programmes and both seek feedback on the relevance and value of specific courses, in addition to employment data. It was felt that if results for the present survey were materially different from those found in Sheffield that this would be highly significant. White (1986) and Armstrong (1986) presented the results of broader surveys of a number of schools' students, at both first degree and postgraduate levels. The detailed comparative analysis of the present survey with these earlier studies allows conclusions to be drawn about the effectiveness of the Information Analysis course as a preparation for professional life and allows for an exploration of a hypothesised differing pattern of employment amongst Information Analysis graduates.

Significantly, Loughridge (1990, p.75) commented that 'one of the most notable findings, for example, emerging with monotonous regularity, is the continuing dissatisfaction amongst

library school graduates with the contents, course structure and teaching on the courses they have attended ... and a more comprehensive criticism of professional courses as being too theory-oriented is common to many of the surveys'. Brenda White Associates concluded similarly for the 1986 survey, 'in only a few cases did the LIS course measure up to expectations' (Brenda White Associates, 1986, p. v). The present survey, therefore, also sought to gather extensive qualitative responses from graduates on each of the modules of the course and the relationship between the module and eventual working practice, as experienced by respondents.

Many earlier surveys focus upon general levels of success and on gathering commentary on the contribution of the course to graduate success: the present paper focuses additionally on the detailed analysis of the nature of employment into which respondents have gone, the organisations within which their posts are found and the nature of the functions which respondents are asked to carry out.

There have also been a number of career surveys covering other geographic regions, as in the work of Apostle and Raymond (1990) which investigated the emerging information market in Canada or that of Laqueur (1993) which explored the educational and professional response to the emerging market. Other research has focused upon specific sectors of the market such as the health sector (Brittain, 1992) or museums, arts and the humanities (Bierbaum, 1988).

The survey

The survey was carried out as a postal questionnaire to all former successful graduates of the course. The questionnaire was based originally upon a questionnaire designed by the Scottish Higher Education Funding Council for a historiographic survey of the careers of Scottish students of all disciplines. It was then adapted by the Information Analysis Course Panel, consisting of academic staff teaching to the course and two student representatives, who offered suggestions as to how the questionnaire could relate more specifically to the course and a number of changes resulted which it was felt would generate more useful data for teaching staff. The Course Panel also collaborated upon the wording of the letter to accompany the questionnaire in the hope that this would be helpful in encouraging a good response. All recipients of the questionnaire were offered a copy of the eventual paper that would be produced as a result of the exercise and 12 respondents asked for such a copy.

However, the results were not as positive as was hoped. The response rate compared poorly with that obtained by Loughridge and Sutton (1988) of 55.5%, by Loughridge, Oates and Speight (1996) of 60.8%, by White (1986) of 47%, and by Armstrong (1986) of 50.1% of postgraduates and 41% of undergraduates. The response rate was affected by the lack of current and accurate addresses for the group. Addresses had been provided by the University's Alumni Office and in many instances, these were not current. From the original 80 sent out, nine were returned as no longer at the known address. There were, therefore, 71 potential respondents: 32 responses were received. Unfortunately the timescale and resources did not allow for any further avenues to be explored, such as email notices or reminder letters, and the response rate was accepted as low but valid at 45%. As with all such surveys, it is fully acknowledged that there is likely to be a bias amongst respondents towards those who have maintained links with the University, those that are in relevant employment and potentially those that felt most positively (or negatively) about their professional and educational experience.

Data analysis

The early parts of the survey are analysed primarily quantitatively, conventionally and in order to provide some comparison with earlier surveys. However, a greater degree and more qualitative form of analysis was necessary in considering the nature of the posts which graduates had, in the past, and do, at present, hold, and in analysing data from respondents as to the quality and value of modules on the Information Analysis course. As different forms of analysis have been carried out, the nature of the analysis that took place for certain questions will be described, where necessary, alongside the results in the discussion that follows.

The respondents

Respondents were drawn from the first four cohorts of the Information Analysis course: graduating in 1993, 1994, 1995 and 1996. Unsurprisingly given the funding situation, 29 (90.6%) of respondents had gained their first degrees from Scottish universities. 22 (68.7%) had gained an Honours first degree. First disciplinary backgrounds, as expected with a conversion course, ranged widely across subject areas where Table 1 illustrates that variety:

Table 1: Subject of Degree

Politics/Policy Studies	6
Management	4
Librarianship and Information Studies	4
History	4
Psychology	3
Literature/Languages	3
Mathematics	2
Computer Science	2
Economics/Accountancy	1
Education	1
Law	1

Nine (28.1%) of the respondents had completed the MSc at the time of the survey, while 23 (71.9%) had only completed the Diploma. Seventeen (53.1%) were male and 15 (46.9%) were female. At the time of completing the survey, 23 (71.9%) of respondents were between 20 and 29 years of age; six (18.7%) were between 30 and 39 years of age; and three (9.4%) were between 40 and 49 years of age.

Current employment

Twenty-eight respondents (87.5%) were at the time of the survey either in employment or self-employed. One respondent (3.1%) was also engaged in further study for a higher degree. Three others (9.4%) were not in employment (2, 6.2%) or currently not looking for employment (1, 3.1%). Of the 28 in employment 14 (50%) were employed on a full-time permanent basis, while three (10.7%) were employed on a part-time permanent basis and a significant minority of 11 (39.3%) were employed full-time, but on a potentially less secure fixed term contract.

It was thought that it might be interesting to investigate which avenues respondents had followed in finding out about job opportunities, in particular to identify potentially fruitful sources. Table 2 lists those sources cited by respondents:

Table 2: How did you learn about the availability of the post?

Source	No
Through personal contact / word of mouth*	9 (32.1%)
Newspaper advertisements	9 (32.1%)
<i>Library Association Record Vacancies Supplement</i>	2 (6.2%)
Internal university careers publication	1 (3.1%)
School vacancies noticeboard	1 (3.1%)
Recruitment agency	1 (3.1%)
Through placement	1 (3.1%)
From relief work	1 (3.1%)
Telephoned by employer	1 (3.1%)
Sent out speculative letter and CV	1 (3.1%)
Post created as a result of dissertation work	1 (3.1%)

* NB: two specifically mentioned staff of the School as their source

The significant number of respondents citing personal contacts as their source is interesting and merits further exploration. It is likely that more than the two that offered the School as a source may have heard of a post by that means, but concrete data on other productive forms of personal contact would be useful. Professional and agency mechanisms seem on the above evidence not to have been particularly productive, despite the fact that students are directed to these sources. This is an area particularly worthy of further exploration as it behoves us as vocational educators to provide the best advice and guidance to students on effective ways to find posts.

The questionnaire also sought to determine how quickly after graduation respondents had obtained their first post. For 1993 graduates, 60% of respondents had obtained a post by December 1993; for 1994 graduates 55% had obtained their first post by December 1994; for 1995 graduates 90% of respondents had obtained their post by December 1995; and for 1996 graduates, 75% of respondents had found employment by December 1996. Responses illustrated that although there may be a significant gap between graduation and employment, eventually six respondents (18.7%) successfully found professional employment although it took them more than six months after completion of the course to do so. This is a heartening fact for those students who may have initial difficulty in finding a post and it may be useful evidence for staff in attempting to encourage graduates to remain optimistic in their search for employment.

Sector of employment of Information Analysis graduates

For the purpose of determining the markets into which graduates of the PG Diploma in Information Analysis had gone, the 57 posts identified by respondents on the questionnaires were examined and analysed into a number of subject categories which are taken to represent distinct sectors of employment for this group of respondents. Six posts were excluded from the analysis as being clearly non-professional posts, such as clerical assistant or secretary, leaving a total number of posts analysed as 51. Where percentages are shown in the discussion that follows, these are a percentage of 51. The categories are derived from and justified by the data in that no category or subgrouping with fewer than five posts was included and miscellaneous posts or posts with no similarities in characteristic as evidenced by job title or description of duties are discussed separately. The sectors of employment identified as being significant for this respondent group are: research; information technology; information service; and financial or policy analysis. Interestingly using this means of classification the traditional library/special library sector does not even appear as a significant sector with only two posts identified that would fall into this category. These categories are discussed more fully below with an identification of the most commonly identified duties for each. It should be noted that the duties were separately analysed to reflect the grouping to which they most conformed: this has meant that duties are not always found in the sector in which the respondent citing them works.

Fifteen (29.4%) posts were identified that fell into the employment sector of **research** and typically job titles were Research Assistant, Research Officer, Project Coordinator or Research Coordinator. The duties described by respondents in this sector included: desk research; social science research; project work; acting as animateur; undertaking interviews; carrying out questionnaire surveys; coordination of research activities; managing meetings and workshops; analysing data; analysis of database and costing information for statistical purposes; research in support of written publications; maintenance of research database; administration of research panel; writing articles; writing policy response papers; carrying out research projects; project management; and developing new research projects/proposals.

Ten posts (19.6%) were in the **information technology** employment sector, with job titles indicating IT, systems management and user support roles, such as Database Manager, SAP-Consultant, Applications Supervisor and Systems Support Technician. The duties described

by respondents in this sector of activity included: Internet systems manager; intranet systems management; IT project management; running an IT help desk; computer processing; developing databases; controlling, collating and analysing data; conceptual design of future processes (business re-engineering) in respect of new software; implementation and configuration of SAP software; programming; designing and teaching IT classes; producing management information system reports; and acting as computer specialist.

Eight posts (15.7%) had job titles indicating a post in **information service** provision or information support such as Information Scientist, Information Researcher, Information Analyst and Policy Information Assistant. The duties described by respondents in this sector of activity included: obtaining/collating information from various sources for clients; dealing with enquiries; responding to public enquiries; carrying out literature searches; scanning journals; updating in-house database of publications/literature; maintaining collection of books/journals; and archiving materials.

Five posts (9.8%) were in the financial analysis/policy analysis sector with job titles such as Strategy Assistant, Financial Analyst and Commercial Analyst. . The duties described by respondents in this sector of activity included: assisting in the formulation, implementation and monitoring of economic development strategy; community economic development project work; coordination of quality system; coordinating a team of analysts; developing cost/benefit models for major projects; managing budget and reporting for large-scale programmes; project/programme administration; and commercial administration for gas trades and contracts.

The remaining posts (13 posts, 25.5%) were in a wide range of sectors: only **education** with three posts (5.9%) Lecturer, Placement Supervisor and Tutor; and **librarianship**, with two posts (3.9%) Library Curator and Information Centre Librarian, could be deemed to group in any logical manner. Other job titles in this miscellaneous group include Assistant Manager (adults with learning difficulties), Records Management, Manager and Day Centre Officer, Evaluation Assistant and Journalist.

Posts were found in both the public sector and commercial sector organisations, with a slight majority in the public sector (29 posts, 56.9%) but a still significant number in commercial companies (22, 43.1%). Of the public sector employers, 13 were institutions of higher education, five were local authorities and there were a range of others such as Enterprise agencies and health councils. Of the commercial sector employers, 10 were in the oil sector

but there was otherwise little concentration into industry sectors. Three posts were with professional bodies/institutions and one was with an organisation intriguingly entitled the Information Design Unit.

The present survey demonstrates a quite different pattern of employment for Information Analysis graduates from that of earlier surveys of LIS graduates. Only two respondents are in posts which might be described as traditional LIS market posts. All of the others fall into Moore's 'emerging markets', Cronin's 'information periphery' or could be characterised as Wisdom-Hill and Brittain's 'hybrid information worker'.

This is in marked contrast with the findings of other surveys which will be briefly reviewed. White (1986) found that 69% were in posts in the traditional library and information sectors, while those with masters degrees constituted the majority of those going into posts outside the traditional library market. Armstrong (1986) found that 78.72% of postgraduates and 67.53% of undergraduates had gone into posts in academic and public libraries, while 16.31% of postgraduates and 16.32% of undergraduates had gone into special libraries. Loughridge and Sutton (1988, pp. 257) found that 82.6% of respondents had found first posts in either public, academic, national or government libraries, 7.1% in special libraries, 3.8% in lecturing or research, 3.3% as information officers and 2.8% in clerical posts. Loughridge and Sutton found that respondents' current posts produced a slightly different pattern, where 77.7% were in public, academic, national or government libraries, 10% were information officers, 6.1% were in special libraries, 6.6% were in non-library posts, 10% were in lecturing or research, 1.9% were in service industries and 3.8% were not working. Apostle and Raymond (1990) in a survey of graduates of Canadian MLS programmes, found that fewer than 15% of respondents were finding posts outside libraries, concluding that less than 5% of recent library school graduates have found employment in the emerging market. Loughridge, Oates and Speight (1996) found: that of the 1986-89 graduates, 69% had gone into academic, public or government libraries, 10% into special libraries and 10% into the 'emerging market' [authors' emphasis]; and that of the 1990-93 graduates 54.8% had gone into academic, public or government libraries, 21% into special libraries and 14% into the 'emerging market'. They found the strongest and growing employment markets to be academic and special libraries and the emerging market which they defined as 'less traditional information-related jobs'. Their analysis of second and current posts found an even greater trend towards academic and special libraries.

The significant conclusion that can be drawn from the differing results of the present survey and those of the others summarised above lies not in the nature of the survey but in the nature of the course the graduates of which have been surveyed. As perhaps the first conducted for a recently developed course, the present survey provides evidence of the existence of a healthy 'emerging market' for information professionals and evidence for the capacity of students to break into that market. While most of the evidence for an emerging market has to date come from the analysis of job opportunities, the results described here present the first evidence of graduate involvement in that market. Rather than demonstrate that the new market does not exist, these earlier surveys demonstrate that students of LIS courses are not in huge numbers looking to that market for employment, whether by inclination or by lack of knowledge of its existence. The present survey demonstrates that where motivated toward and knowledgeable about the emerging market, graduates can and do find employment therein.

In 1996, Moore argued the emergence of three complementary groups of information professionals: 'Creators, Communicators and Consolidators' (Moore, 1996, p. 24). Creators he described as those who can develop and produce information products and services, with a high level of understanding of how systems work, of the 'complex set of processes involved in information design': this group might be seen to approximate with those that have gone into IT posts in the present survey. Information Communicators are those who mediate between human clients and the sources of information and approximate with those in the present survey that are involved in information service provision. Moore's third group the Consolidators, he describes as those that 'act as the filters and the researchers, working as part of a management team' and these may be compared to the category of research posts identified in the present survey. However, it is fair to say that the research role that Moore describes is more related to management and decision making than the role described by the survey respondents, who are in many instances involved in a purer or more basic form of research activity. However, the present research provides evidence that tends to support Moore's thesis and suggests that further research systematically exploring these information roles would be valuable.

Salary and career progression

An examination of the achieved salary of the respondents gives us some measure of graduate success, if a somewhat crude measure given the basic data that was sought. Table 3 indicates broad salary scales and indicates frequency of response for each.

Table 3: Current salary (March 1997)

	Full Time	Part Time	Totals
Unpaid	-	-	-
Less than £10,000	2	1	3 (10.7%)
£10,000 - £14,999	9	-	9 (32.1%)
£15,000 - £19,999	8	1	9 (32.1%)
£20,000 - £24,999	3	-	3 (10.7%)
£25,000 - £29,999	-	-	-
£30,000+	2	-	2 (7.1%)
No response	1	1	2 (7.1%)
Totals	25	3	28 (100%)

While these results reveal a wide salary range amongst respondents, the 42.8% earning less than £15,000 must be viewed as somewhat disappointing. However, such salaries are likely to reflect entry level salaries and the fact that a small but significant number are, within four years of graduation, earning in excess of £20,000 and in two cases in excess of £30,000 should be viewed positively and indicates that there is potential for rapid upward movement for graduates. One of the highest earners, it should be noted, is working in Germany where salary levels are considerably higher than in the United Kingdom.

It was also considered significant to investigate the number of posts held since graduation by respondents. Table 4 indicates the number of posts held and indicates how that number relates to graduating cohort.

Table 4: Number of jobs held by respondents for each cohort

Graduation Year	Number of Jobs						Total
	None	1	2	3	4	5+	
1993	-	3	1	1	-	-	5 (15.6%)
1994	-	3	5	1	-	-	9 (28.1%)
1995	1	4	2	3	-	-	10 (31.2%)
1996	2	3	-	2	-	1	8 (25%)
Totals	3 (9.4%)	13 (40.6%)	8 (25%)	7 (21.9%)	-	1 (3.1%)	32 (100%)

For all cohorts the majority of respondents (75%) had held two or fewer posts. However, the 1994 graduates had typically held a greater number of posts than for other cohorts. These data are not held to be very revealing of a particular trend. It should be noted that the respondent with more than five posts had been employed by an agency on short term contract work.

These findings are not markedly different from those of Loughridge and Sutton (1988, p. 259) where 15% were in their fourth or fifth job, 28% were in their third, 26% in their second and 29% still in their first. They found that those in their first post were mainly the more recent graduates. Similarly, Loughridge, Oates and Speight (1996, p. 107) found that of the 50 respondents graduating between 1986 and 1989, over 87% had held two or more posts, while 56% had held three or more posts.

In the design of the questionnaire it had also been thought that the number of job applications made by respondents might reveal interesting patterns.

Table 5: Number of job applications made

Number	Successful Applications	Unsuccessful Applications	Job Interviews Attended
None	3	1	2
1	14	3	12
2	5	4	6
3	3	1	6
4	-	3	-
5	1	2	-
6	-	-	1
7	-	1	-
8	-	1	-
9	-	-	-
10+	-	8	1
Not specified	6	8	4
Totals	32	32	32

However, perhaps the only interesting result to emerge is that eight (33%) of the 24 that specified that they had made an unsuccessful application, had made more than 10 unsuccessful applications (in one instance indicating that ‘dozens’ of unsuccessful applications had been made): but it should be noted that of those eight only two had been ultimately unsuccessful in their search for a post. This would illustrate the necessity for some graduates to continue the job search process despite the setbacks implicit in what can be a highly demoralising process.

Respondents were also asked if they were actively seeking another post, as a potential indicator of satisfaction with their present post.

Table 6: Are you currently actively searching for another post?

	Fixed Term	Not Fixed Term	Totals
Yes	6 (54.5%)	4 (23.5%)	10 (35.7%)
No	5 (45.4%)	11 (64.7%)	16 (57.1%)
No response	-	2 (11.8%)	2 (7.1%)
Totals	11 (100%)	17 (100%)	28 (100%)

However, it would seem that these data are not particularly revealing. As one might expect a higher proportion of those on fixed term contracts are actively seeking another post (six of 11, 54.5%), when compared with those in a permanent post (four of 17, 23.5%). While it might be argued that to be seeking another post need not reflect negatively on individuals' current position, it is clear from this evidence that the lack of long term security does motivate employees to consciously pursue alternative career possibilities.

Relevance of the course content to working practice

Respondents were asked whether they would describe their present post as one which utilises the skills acquired during the PG Diploma course?

Table 7: Relevance of course content to working practice

	Full Time	Part Time	Totals
Yes	13	1	14 (50%)
No	1	-	1 (3.6%)
Partly	10	1	11 (39.3%)
No response	1	1	2 (7.1%)
Totals	25	3	28 (100%)

89.2% of respondents, therefore, felt that the course provided them with skills which had relevance to their present work environment. Only one respondent felt that they had gained nothing from the course that might be so applied.

The questionnaire then sought to determine whether there were any areas where respondents felt that their job opportunities could have been improved while studying on the Course. The question therefore *actively sought* positive critical input from respondents reflecting maturely upon their experience. Five (15.6%) respondents did not answer this question. However, despite this active encouragement and soliciting of negative comment, an analysis of those 27

responses made reveals that only eight (29.6%) respondents made any negative comment, while 19 (70.4%) made only positive comments.

Comments made about the Course, in relation to this general question, related to a number of subject areas and these are detailed in all cases below in order to demonstrate the full range of response. They have been grouped according to the aspect of the course to which they refer:

A number of respondents made interesting comments on the marketability of the course amongst **employers or career development aspects of the course**: 'employers would appear to rate the course quite highly - just having the qualification helped as a lot of store is set by 'information'; 'the qualification creates some interest/curiosity on the part of interviewers, which is beneficial, if unspecifically so'; 'my employers were very impressed by the range of subjects studied'; 'while studying IA I became more confident in my own abilities'; 'the course made me aware that there were job opportunities available in a number of areas I had not considered before'; 'I feel that without studying IA, I would not have applied for my job, let alone stood any chance of making a successful application'; 'simply by having a PG Diploma, employers are generally impressed'; 'although I don't plan to work in Social Work for ever, I don't think that I will ever work in a job got purely on the merits of a PG Dip in IA - however, I feel that it may be useful at a later stage'; 'has clarified future career opportunities'; and '1 year older and more mature when applying for jobs'.

Two respondents highlighted the **flexibility** offered by the course: 'I feel that doing the PG allowed me to widen my scope of job searching beyond traditional librarianship and into the wider information environment - I still feel this to be an advantage as I have a grounding in many subjects and a knowledge to conduct research in anything'; and 'the course content is broad enough to cover several useful areas without being able to be a specific professional qualification in its own right, which is not its function anyway - so the **adaptability** of the PG Degree/Diploma is useful in enhancing the CV and employment prospects'.

Several respondents focused on **specific subjects** within the curriculum: 'interviewing technique/flexibility and creativity in information retrieval: to get to know what the client does today, how he'd like it in the future, and where the actual process structure hides problems'; 'a knowledge of research methods and sources of information will prove beneficial - in addition, the preparation and presentation of information, indeed the overall thought process involved in processing information, will be of use'; 'I can now search for

material in various forms quite easily and efficiently'; and 'development of research skills - gathering, analysing and presenting information'; 'on-line experience - personal information skills invaluable'; 'learned how to use databases and electronic IR tools, including Internet - becoming more important in workplace. Information studies, information consolidation and research methods helped define research skills - built on skills acquired during first degree'; 'business policy analysis helped broaden outlook beyond area previously studied'; 'elective helped build on and consolidate subject of particular interest'; 'excellent second degree'; 'course helps me manage information, i.e. good information profession qualifications'; 'course very focused'; 'information studies and theory aspects supplemented analysis techniques learned at undergraduate'; and 'practical experience in information gathering and dissemination, and use of computer packages'. One respondent emphasised the understanding of **information context**: 'development of self-confidence and awareness of organisational issues and policies';

Information Technology was found useful by a number of students, who made comments such as: 'the instruction in computer use and the various software products included in the course stood me in good stead'; 'how to find an organisational or technical solution for the client's problems'; 'I was introduced to areas completely new to me, such as using a PC or producing DTP documents'; 'I also gained useful computer knowledge'; 'up to date IT skills and equipment'; and 'IT know-how'. The **placement** was considered significant by certain respondents: 'the placement I obtained proved to be very timely, as the position became available while there'; 'the placement was not a feature of the first year of the course, but I imagine that it is very useful'; and two respondents emphasised the value of 'placement work experience'.

The significance of **presentation skills** was also highlighted by a number of respondents: 'verbal expression/structure of written reports and documentation: developing and writing up conceptual designs documentation'; 'experience in designing and giving presentations/speeches: presenting results before a group, showing overhead-transparencies, teaching classes and designing and giving demonstrations of the software functionality'; 'presentation skills were improved'; 'presentation skills'; and 'developed presentation and report writing skills'.

Negative comments focused primarily on IT and comments included that: one respondent wanted 'increased emphasis on Internet *and* Intranet development'; two sought a more in-depth treatment of SPSS; two respondents would have valued more guidance on the use of

Microsoft Access and training in DTP; and one respondent felt that 'more emphasis on IT applications/Internet/online would have been helpful - information workers are expected to have skills in IT applications to a level higher than I considered myself to have when I graduated - stress the need for constant updating of skills once graduated.' In considering comments relating to IT, however, it should be borne in mind that much of the critical commentary was received from students of the earlier cohorts and that a constant process of updating goes on, for example one graduate commented that 'some of the IT packages used were dated, e.g. File Express and Lotus - being able to say that the latest version of Excel and Access, for example, had they been used, may have been of use.' All of the respondent's desired packages are now available and form part of the students' experiences. One respondent argued the need for a specialist module in statistics. Another respondent seemed to feel that the course lacked numerate elements: 'the job that I have now is mainly numeric but not financial, which was not really covered by the course. However, I would say that what I learned in the course helps a lot of different aspects of my work'. One respondent felt that there should be 'less emphasis on business/financial modules in course - a complete waste of time for me personally. More of a 'European' element to the course. More time/emphasis on work placement part of course.' Again the two final points have since been addressed via the introduction of the placement module and the development of the Public Policy module into Public Policy Processes in Europe, as well as the addition of a European Information elective.

Respondents were also asked for critical feedback on each of the modules that form part of the Course. Seven respondents (21.9%) did not answer any part of this question. These responses have been analysed into positive and negative responses initially and then in terms of the nature of the comment received. Broad trends in response have thus been identified.

There were twelve positive comments on **Information Studies**, which respondents saw as practical, providing useful experience and applicable in the working environment. Two negative comments were made: one recommended greater use of handouts and the second commented that lecturers 'all thought we were coming to be librarians', a very disappointing comment in the light of the ethos of the course. One respondent had felt difficulty in distinguishing between this module and **Information Consolidation**, which on the whole elicited a more variable response with seven positive comments and four hesitant comments. There seems to have been some lack of definition with this module where one respondent did not remember the module and another described the module aims as 'badly articulated'.

There were ten positive comments on **Public Policy**, most of which emphasised the excellent teaching, demanding nature and intellectual rigour of the module. Even those two respondents who had not found the work applicable in their present post had found the module enjoyable and valuable. Only four respondents made negative comments and these were largely due to the fact that they had not found the module relevant in practice.

Business Policy & Financial Analysis elicited the most mixed response with comments varying from 'I have used these skills in budgeting: I have handled an average of £50,000 a year and the accounting techniques have been useful' to 'has not proved relevant; I don't think we studied the subjects in enough depth for them to be especially useful'. Overall there were 10 positive and five negative comments.

Technical Communication was generally very warmly received. Only one respondent had not found the module relevant. Otherwise 14 positive comments were made. One respondent for example stated that the module was 'a must. I believe it is important to describe procedures and equipment in layman's terms rather than high-faluting mumbo-jumbo - which is usually the product of someone trying to show off '. 12 respondents specifically mentioned how relevant they had found the course to be in practice making comments such as 'written and oral communications skills are essential to practically any position now' and 'presentation and report writing skills have been invaluable'.

Research Methods tends to be a module the value of which may be questioned by students while in the process of studying. However, the responses from practitioners would suggest that its value is demonstrated quite clearly in practice. Of 19 responses, only four were negative, from respondents who felt that the module had not proved relevant, required greater attention to specific packages or been 'over abstract'. Many respondents commented that they had put the skills acquired into practice, as in for example 'I have applied [skills] constantly within post', or that 'the module was useful'.

The elective module where students are given the option to choose between four modules: Information Design; Financial Analysis; European Union information; and the Internet again elicited a mixed response, relating very specifically to the individual topics.

The **Placement** was well received by 15 of 18 respondents. Most valued the chance to put theory into practice, to test their acquisition of skills; to gain experience, 'prove yourself in a work environment' and to explore employment opportunities. Negative comments related

largely to the exercise which was felt in one instance to be 'too demanding' or to the timing of the placement which was felt by one respondent to be too short.

In total 112 positive comments and 31 negative comments were made.

It is again instructive to compare these results with those of other surveys. Loughridge and Sutton (1988, pp. 262-263) found that Management, Resources and Cataloguing/Classification were identified by many respondents as most relevant. The most general criticism of the programme was that it was too theoretical at the expense of the practical. Interestingly, most complaints about the theoretical bias of the course came from the most recent graduates. This theme is echoed by Armstrong (1983): when asked to identify areas that had received insufficient attention on the course, responses included IT, children's librarianship, financial management, interpersonal skills and practical reference skills.

Loughridge, Oates and Speight (1996) found that courses dealing with practical computing and information sources were found to be especially useful in first posts, while management, information sources and resources courses continued to be seen as useful in later posts. Again some respondents felt that the course had overemphasised theoretical approaches to technology and management and to underemphasise the practical aspects of reference work and technical services. Suggestions were made as to areas which should be given more attention in the course and these included 'economic, political and social issues, marketing, quality management, conservation and preservation, and stock management' (Loughridge, Oates and Speight, 1996, p.112). Respondents also identified skills they had acquired in their second and subsequent posts and these included: management skills; staff selection, training and education skills; marketing and public relations; financial management; and IT skills, including systems management, CD ROM and online searching, database design and desktop publishing.

Membership of professional associations

Respondents were asked to indicate membership of professional associations. Highly significantly only eight respondents (25%) were members of the Library Association and five (15.6%) were members of the Institute of Information Scientists. Two of the respondents were members of both: 21 of the respondents (65.6%) were members of neither association. This finding contrasts markedly with those of Loughridge, Oates and Speight (1996) who

found that 102 of the 107 respondents were members of the Library Association, but only eight of the 107 were members of the Institute of Information Scientists. For Information Analysis graduates there is a much lower membership of the Library Association and, while a higher proportion than found in Sheffield are members of the IIS, the number is still disappointing. Clearly messages about the value of professional association and involvement are not effectively getting across to students and there are perhaps lessons here for both educators and for the professional associations themselves, seeking to extend and broaden membership into the 'emerging markets'.

Present students' motivation in joining the Information Analysis Course

In a second survey, and as part of a separate and university wide exercise, the 1997/98 Information Analysis cohort were asked to complete a questionnaire that gathered data about their reasons for choosing to apply for and accept a place on the Information Analysis course. It should be noted that this questionnaire was completed in the first week of full classes for students and, therefore, at a very early stage in the whole process. It is felt to be a very worthwhile exercise, beyond its primary function of providing basic data for the university's marketing department, in that when analysed it provided the basis for useful discussion and exploration of emerging issues between the Course Leader and the class. 29 of a potential 38 students completed the questionnaire in 1997 giving a response rate of 76.3%. Of the 29 respondents, 10 (34.5%) were male and 19 (65.5%) female.

Thirteen students joined the course directly upon completion of their first degree. Sixteen had a gap between their first degree and the return to study. Of these 16, nine wanted a higher degree, five had decided upon a career change, one sought to overcome lack of promotion, one wanted a qualification related to their work situation and one had not been able to get desired jobs with existing qualifications.

In the context of the present paper, there are two significant questions dealt with by the questionnaire. The first asked students to volunteer their reasons for specifically choosing the Information Analysis course. This was an open question with respondents free to express any position. Some respondents cited more than one reason.

Table 8: Reasons for choosing the Information Analysis Course (1997/98 cohort)

Reason cited	No. citing (%)
Vocational emphasis	14 (48.2%)
Course content	8 (27.6%)
Personal interest/research interest	7 (24.1%)
Building on previous experience/relating to present work	3 (10.3%)
Availability of funding/Non-quota course	2 (6.9%)
MSc/higher degree	2 (6.9%)
Placement	1 (3.4%)
Reputation	1 (3.4%)
Technological support	1 (3.4%)
Conversion course from Arts	1 (3.4%)
Total number of respondents	29 (100%)

Clearly the major focus from students' perspective is upon either the vocational content of the course or upon its subject matter which will in many minds translate into an eventual working environment. This finding contrasts with that of Dewey (1985) who found that only 14% of respondents found the course curriculum offered to be a factor in choosing a university and a course.

The second interesting set of results came from an open question which sought to find out whether students could specify a desired career. These data help to make concrete some of the underlying assumptions that students might have upon joining the course which are likely eventually to impact upon where they look for posts after the course is complete.

A number of different careers were identified. These have been grouped into broad areas:

Table 9: Sought career (1997/98 cohort)

Category	Job Title	No. citing
Information Science	Information/Intelligence Analyst/Officer/Scientist	10 (34.4%)
	Information Manager	3 (10.3%)
	Librarian	2 (6.9%)
	Advice Worker	1 (3.4%)
Research	Researcher (including freelance)	8 (27.6%)
	Academic research	2 (6.9%)
	Commercial researcher	1 (3.4%)
	Market researcher	1 (3.4%)
	Political researcher	1 (3.4%)
	Media researcher	2 (6.9%)
Other	Technical writer	1 (3.4%)
	Clinical psychology	1 (3.4%)
	IT	1 (3.4%)
Undecided		4 (13.8%)
Total number of respondents		29 (100%)

Interestingly, these results contrast markedly with those of the career survey described in this paper in that the majority (16, 55.2%) seek an eventual role in information service provision, closely followed by 15 (51.7%) seeking posts in research. This reverses the results of the career survey where posts in research were more commonly found than those in information service provision. Most interestingly perhaps was the fact that only one (3.4%) of the current cohort sought to work in IT specifically, while 19.6% of graduates had found jobs in IT. This last finding must, however, be considered in the light of the fact that the students were in the first week of the course, that many come from an arts and social sciences background and many have little prior IT experience. It is also interesting to reflect upon the fact that students who initially cannot conceive of a career in IT may by the end of the course find such a prospect no longer daunting but rather desirable.

Conclusion

The present survey contrasts markedly with previous survey results and demonstrates a quite different pattern of employment for Information Analysis graduates from that of earlier surveys of LIS graduates. Only two respondents are in posts which might be described as traditional LIS market posts. All of the others fall into Moore's 'emerging markets', Cronin's 'information periphery' or might be characterised as falling into a category that

might be described as Wisdom-Hill and Brittain's 'hybrid information worker'. The survey results provide evidence that graduates are finding posts in the emerging market where they are motivated towards and knowledgeable about that market. The results of the survey also tend to support Moore's identification of three complementary groups of information professionals: Creators, Communicators and Consolidators, equating approximately with the IT, information service and IT roles and duties described by respondents. There is a need for further and more qualitative research into these three areas of skilled professional employment, which would better enable educators to understand the precise nature of the specialist tasks that are typically undertaken by our graduates.

The survey respondents are finding the skills acquired on the Information Analysis course relevant and applicable to their present working environment. They emphasised the marketability of the course, the flexibility offered in terms of career choice, the support for career development and commented positively on a number of specific subject areas. Criticisms of the course primarily emphasised the necessity for schools to maintain a current and relevant suite of software packages. Although necessarily variable, comments on individual subject modules were predominantly positive and of the 143 evaluative comments, 112 were in fact positive.

From the results of the second questionnaire completed by the present student cohort, the majority were motivated by vocational or subject related factors in choosing to apply for and accept a place on the course. The majority held a valid perception of the professional roles for which the course would prepare them. The greatest number of respondents saw themselves as eventually working in information service provision closely followed by research. At such an early stage in the course only one respondent could envisage themselves as working in IT, despite the fact that the graduate survey would tend to suggest that a significant number may find themselves in just such a role.

Loughridge (1990) notes the dilemma of 'those in the LIS departments haplessly struggling to maintain and develop a viable curriculum commensurate with the current job market and informed judgement as to how that market will change in the foreseeable future'. This paper would argue that the execution of career surveys has distinct benefits for three groups: for the educators in measuring the success and value of courses and in enabling a positive and continuing self examination to take place, based not just upon the views of those present students but upon the mature reflections of former students on the impact of their educational experience on their career experiences; for the profession in developing a better

understanding of the workforce and the impact upon the profession of changing patterns of employment; and for the student in developing a mental map of the profession they have chosen, in making more informed decisions about career paths and in learning from the practical experience of others about the job market.

The true value of the career survey to educators is as an aid to retrospective and current evaluation rather than as a predictor of future need. Such surveys can only tell us about the extent to which we have succeeded with past students but the value of such information should not be underestimated. What is missing from some of the accounts of past surveys is a consideration of what use is made of the data by the LIS schools and how the data are applied in course and curriculum development. As Loughridge, Oates and Speight (1996, p. 106) comment quantitative and qualitative feedback from students 'can usefully be exploited both as an aid to the identification and provision of effective teaching and learning facilities, and for curriculum development purposes'. The results of this survey have also provided useful material for discussion and exploration with existing students, as well as indicating areas where more emphasis might be placed, as in for example developing in students a better understanding of the potential value and support offered by membership of professional associations.

The profession as a whole may be more interested in detecting trends and predicting future employment market development. While this paper was being written, the authors approached the Library Association to determine if that organisation held any labour market or career destination statistics. However, the practice of compiling statistics on first destinations of graduates had been discontinued by the Library Association Education Department around 1990, in discussion with the BAILER Heads of Departments Committee, largely because many schools and departments of LIS had become unable to provide such information often due to the increasing centralisation of collection of such statistics within institutions. The exercise had by 1990 become virtually meaningless with a very large proportion of schools not responding. Kate Wood¹, for many years responsible for the collection and analysis of this statistical data, described to one of the authors in a telephone conversation some of the problems associated with the generation and interpretation of such data. She felt that a complicating factor from the perspective of the schools and departments is the difficulty of providing meaningful employment sector statistics relating to undergraduate cohorts, graduating from generalist and not LIS specific courses. For the more

¹ In a telephone conversation with one of the authors, 27th November 1997.

focused and sector specific postgraduate courses, such data would be more meaningful for the profession. Schools were also reliant on students' returning the employment questionnaires and responses had shown that it had tended to be students who had been unsuccessful in gaining employment that had responded thus producing results that suggested a poorer success rate amongst graduates than might in reality be the case. Interestingly the present survey tends to show the reverse, in that there was a very low percentage of unemployed respondents. Another concern expressed by schools and departments in collaborating in the compilation of such statistics related to the use that would be made of the resulting data: there were (and no doubt would remain) fears that such data could be used politically, could be interpreted and potentially misinterpreted by funding bodies and that the results could be used as a competitive ranking system. League tables are by no means a rarity in all forms of education today. However, there are also benefits to be gained from the production and consolidation of such data for the United Kingdom as a whole. The results of such an exercise, demonstrating the sectors of employment of students graduating from courses, could be useful in a correct determination of fee bands for studentships and bursaries, particularly when, as in the present survey, graduates can be shown to have penetrated a non-traditional employment market.

The point was made by a member of staff of the Library Association Professional Practice Department that the profession would find it useful to have statistics not only on first destination of graduates, but also on their progression and salaries after five and ten years. It was suggested that the Library and Information Statistics Unit (LISU) might be an appropriate agency to undertake such canvassing and that this could be done comparatively readily by the addition of a number of questions to existing surveys. Certainly this is an area where educators and professionals should collaborate to ensure valid and mutually beneficial data to be collected. It is, however, evident from past experience that for such an exercise to be feasible, practicable and useful both educators and professionals should be involved in its design.

The necessity of continuing appraisal and review of course curricula has never been greater. As Moore commented (1997, p. 24):

‘Without doubt the demand for information professionals will continue to expand. But the skills and abilities required by those professionals will be different from what we have known before.’

Vague notions of producing flexible graduates are not enough: we need hard data about the skills and abilities being utilised by professionals and one of the best ways in which we can gather such data is through the use of graduate career surveys. However, these must be ongoing and thorough and should in future focus more upon what is presently being done by graduates rather than concentrating on asking them to retrospectively evaluate the course that they have completed, a course which may in any case have changed considerably since their graduation. The present survey attempted to elicit feedback as to the skills and areas of expertise that required more support than was provided by the Information Analysis course: however, little material was forthcoming which either suggests that the course was comprehensive in its coverage or, more likely, that critical feedback was minimised by respondents as being critical and therefore not positive. Other ways of eliciting this kind of response that do not convey a negative connotation will, therefore, be explored before another survey is carried out. Further surveys will be necessary, not only to continue the process of course review and appraisal as argued above, but also to test realistically the extent of professional progression achieved by graduates in the longer term. Such future surveys should also be designed to develop understanding of the process of job seeking and the factors that affect graduate success in that quest.

Bibliography

- Abell, A. (1997) . New roles, new skills, new people. *Library Association Record*, 99 (10), pp. 538 - 539.
- Angell, C. (1987) . *Information, new technology and manpower: the impact of new technology on the demand for information specialists*. London: British Library. [LIR Report: 523]
- Apostle, R. and Raymond, B. (1990) . Library graduates and the emerging information market in Canada. *Canadian Journal of Information Science*, 15 (1), pp. 21 - 36.
- Armstrong, C.J. (1983) . *A follow up study of the careers of former students from schools of library and information studies*. London: British Library Research and Development Department. [BLR&DD Report No: 5754]
- Bierbaum, E. G. (1988) . Museums, arts and humanities librarians: careers, professional development, and continuing education. *Journal of Education for Library and Information Science*, 29 (2), pp. 127 - 134.
- Bray, F. and Turner, C. (1991) . *Monitoring the library and information workforce*. London: British Library. [British Library Research Paper 97]

- Brenda White Associates. (1986) . *The impact of library and information studies education on subsequent career progression*. London: British Library. [British Library Research Paper, 6]
- Brittain, M. (1992) . The emerging market for information professionals in the UK National Health Service. *International Journal of Information Management*, 12 (4), pp. 260 - 271.
- Cronin, B. (1983) . Post-industrial society: some manpower issues for the library/information profession. *Journal of Information Science*, 7, pp. 1 - 14.
- Dewey, B. I. (1985) . Selection of librarianship as a career: implications for recruitment. *Journal of Education for Library and Information Science*, 26 (1), pp. 16 - 24.
- Horton, F.W. (1994) . *Extending the librarian's domain: a survey of emerging occupation opportunities for librarians and information professionals*. Washington: Special Libraries Association. [SLA Occasional Paper]
- Laqueur, M. (1993) . New markets for information professionals. *Library and Information Research News*, 16 (57), pp. 17 - 18.
- Loughridge, B. (1990) . Employment and career surveys: some reflections on their value and relevance. *Journal of Librarianship*, 22 (2), pp. 71 - 90.
- Loughridge, B., Oates, J. and Speight, S. (1996) . Career development: follow up studies of Sheffield MA graduates 1985/86 to 1992/93. *Journal of Librarianship and Information Science*, 28 (2), pp. 105 - 117.
- Loughridge, B. and Sutton, J. (1988) . The careers of MA graduates: training, education and practice. *Journal of Librarianship*, 20 (4), pp. 255 - 269.
- McGarry, K. (1983) . Education for librarianship and information science: a retrospect and revaluation. *Journal of Documentation*, 39 (2), pp. 95 - 122.
- Moore, N. (1986) . *The library and information workforce: a study of supply and demand*. London: British Library. [BLR&D Report: 5900]
- Moore, N. (1987) . The emerging market for librarians and information workers in the U.K. *Journal of Librarianship*, 19 (1), pp. 31-40.
- Moore, N. (1988) . *Information-intensive management: impact on the employment market for information professionals*. Birmingham: Birmingham Polytechnic and Aslib.
- Moore, N. (1996) . Creators, Communicators and Consolidators: the new information professional. *Managing Information*, 3 (6), pp. 24 - 25.
- Pors, N.O. (1990) . The changing labour market of the information professional: challenges for library school education. *Librarian Career Development*, 2 (3), pp.14 - 21.
- Sellen, B-C. (Ed.) (1980) . *What else can you do with a librarianship degree?* Gaylord Professional Publications in association with Neal-Scumann.

- Williams, W. (1994) . You can take your MLS out of the library: LJ career survey: Part 3: alternative careers. *Library Journal*, 119 (19), pp. 43 - 46.
- Wisdom-Hill, J.C. and Brittain, M. (1994) . *The emerging market for information professionals in Australia*. Adelaide: University of South Australia.